



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,189	01/21/2004	Kia Silverbrook	MPA24US	2155
24011	7590	02/12/2008	EXAMINER	
SILVERBROOK RESEARCH PTY LTD			NGUYEN, LAM S	
393 DARLING STREET				
BALMAIN, 2041			ART UNIT	PAPER NUMBER
AUSTRALIA			2853	
			MAIL DATE	DELIVERY MODE
			02/12/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/760,189	SILVERBROOK ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	LAM S. NGUYEN	2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 05 December 2007.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook et al. (US 6612240) in view of McEfresh et al. (US 6843552).

Silverbrook et al. ('240) discloses a printhead assembly (FIG. 14: *Each printhead assembly comprises a PCB (108 or 110) and a printhead module including elements 104.1 and 106.1 (or 104.2 and 106.2)*), comprising:

at least one printhead module comprising at least two printhead integrated circuits (FIG. 14: *One printhead module comprising two printhead integrated circuits 106.1 and 104.1*), each of which has nozzles formed therein for delivering printing fluid onto the surface of print media (column 6, lines 22-30) being fed past the printhead assembly in a media feed direction (FIG. 9: *The feeding direction of print media is the one that is perpendicular/transverse to the longitudinal direction of the printhead assembly 54*), a support member supporting and carrying the printing fluid for the at least two printhead integrated circuits (FIG. 14, element 120: *The fluid carrier 120 carries fluid along the length of the printheads*), and an electrical connector for connecting electrical signals to the at least two printhead integrated circuits (FIG. 14: *Conductors 116 connects the printheads to the PCB 108 or 110*); and

a plurality of longitudinally extending electrical conductors for providing power to the at least two printhead integrated circuits (*FIG. 14, elements 124 and 122*), the plurality of electrical conductors extending transverse to the media feed direction and being arranged as first and second groups of electrical conductors, the first group extending from one end of the printhead assembly to a region intermediate the ends of the printhead assembly (*FIG. 14: The first electrical conductors are the cable 122 extending from the connector 124 (located at the left end of the assembly) to the connector located at the intermediate region of the assembly. In other words, the electrical conductors extend along the longitudinal direction of the printhead assembly that is transverse to the media feeding direction*), and the second group extending from the other end to connect to the first group at the region intermediate the ends of the printhead assembly (*FIG. 14: The second electrical conductors are the cable 122 extending from the connector located at the intermediate connector to the connector located at the right end of the assembly*).

Silverbrook et al. ('240), however, does not teach wherein the first and second groups of electrical conductors are connected to a first and second power supplies, respectively, to supply power in parallel from both ends of the printhead assembly.

McEfresh et al. discloses an ink jet head assembly comprising a plurality of printhead integrated circuits (*FIG. 5*) and first and second groups of electrical conductors (*FIG. 5, elements 74, 74'*), wherein the first and second groups of electrical conductors are connected to a first and second power supplies, respectively, to supply power in parallel from both ends of the printhead assembly (*FIG. 5*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify Silverbrook's printhead assembly to provide power from two ends of the printhead assembly to the printhead integrated circuits as disclosed by McEfresh et al. The motivation for doing so would have been to provide power in parallel from both ends of the printhead assembly to the printhead integrated circuits as taught by McEfresh et al. (FIG. 5).

- **Silverbrook et al. ('240) also discloses the following claimed invention:**

**Regarding to claim 2:** further comprising a casing in which the at least one printhead module and the plurality of electrical conductors are removably mounted (FIG. 9, element 56).

**Regarding to claim 3:** further comprising drive electronics incorporating at least one controller (FIG. 14, elements 126) for controlling the printing operation of at least one of the at least two printhead integrated circuits via the electrical connector (FIG. 14, elements 116), wherein power is provided to the drive electronics by the electrical conductors via the electrical connector.

**Regarding to claim 4:** wherein the first group of electrical conductors and the second group of electrical conductors overlap each other in the intermediate the ends of the printhead assembly (FIG. 14, element 122).

**Regarding to claim 5:** wherein the at least one printhead module is formed as a unitary arrangement of the at least two printhead integrated circuits, the support member, the electrical connector, and at least one fluid distribution member mounting the at least two printhead integrated circuits to the support member; and the support member has at least one longitudinally extending channel for carrying the printing fluid for the printhead integrated circuits and includes a plurality of apertures extending through a wall of the support member arranged so as to direct

the printing fluid from the at least one channel to associated nozzles in both, or if more than two, all of the printhead integrated circuits by way of respective ones of the fluid distribution members (*FIG. 11, element 136*).

### ***Response to Arguments***

Applicant's arguments filed 12/05/2007 have been fully considered but they are not persuasive.

The Applicant, even though argued that Silverbrook did not teach wherein the conductors extending transverse to the media direction, stated that the power and data are received at the USB circuit board 98 and fed to the connector 124 at the left end of the PCB 108 and then to the PCB 110 via the serial cable 122. It is the Examiner's point of view that in order to convey power and data from the left end connector 124 to the other end connector, the conductors must extend along the longitudinal direction of the printhead to electrically connect the two connectors. As a result, the conductors extend in the direction transverse the media feed direction.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LAM S NGUYEN/  
Primary Examiner, Art Unit 2853

Application/Control Number: 10/760,189  
Art Unit: 2853

Page 7